

# t9\_matrix12 (TMYwrUouLD- Vizqz7bP6CS3V77xWEKoV1jbm)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v33\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v5\_group\_1 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix12 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2. \\
& ((\neg v2\_struct\_0 X2) \wedge ((\neg v6\_struct\_0 X2) \wedge ((v13\_algstr\_0 X2) \wedge ( \\
& (v33\_algstr\_0 X2) \wedge ((v3\_group\_1 X2) \wedge ((v5\_group\_1 X2) \wedge ((v2\_rlvect\_1 \\
& X2) \wedge ((v3\_rlvect\_1 X2) \wedge ((v4\_rlvect\_1 X2) \wedge ((v4\_vectsp\_1 X2) \wedge \\
& ((v5\_vectsp\_1 X2) \wedge (l6\_algstr\_0 X2)))))))))) \Rightarrow (\forall X3. \\
& (m1\_matrix\_1 X3 (u1\_struct\_0 X2) X0 X1) \Rightarrow (\forall X4.(v7\_ordinal1 \\
& X4) \Rightarrow (\forall X5.(v7\_ordinal1 X5) \Rightarrow (\forall X6.(m1\_matrix\_1 X6 \\
& (u1\_struct\_0 X2) X0 X1) \Rightarrow ((X6 = k1\_matrix12 X0 X1 X2 X3 X4 X5) \Leftrightarrow ((k3\_finseq\_1 \\
& X6 = k3\_finseq\_1 X3) \wedge (\forall X7.(v7\_ordinal1 X7) \Rightarrow (\forall X8. \\
& (v7\_ordinal1 X8) \Rightarrow (((X7 \in k4\_finseq\_1 X3) \wedge (X8 \in k2\_finseq\_1 (k1\_matrix\_1 \\
& X3))) \Rightarrow (((X7 = X4) \Rightarrow (k3\_matrix\_1 (u1\_struct\_0 X2) X6 X7 X8 = k3\_matrix\_1 \\
& (u1\_struct\_0 X2) X3 X5 X8)) \wedge ((X7 = X5) \Rightarrow (k3\_matrix\_1 (u1\_struct\_0 \\
& X2) X6 X7 X8 = k3\_matrix\_1 (u1\_struct\_0 X2) X3 X4 X8)) \wedge (\neg (X7 \neq X4) \wedge \\
& ((X7 \neq X5) \wedge (k3\_matrix\_1 (u1\_struct\_0 X2) X6 X7 X8 \neq k3\_matrix\_1 ( \\
& u1\_struct\_0 X2) X3 X7 X8))))))))))))))
\end{aligned} \tag{1}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (v7\_ordinal1\ X2) \Rightarrow (\forall X3. ((\neg v2\_struct\_0\ X3) \wedge ((\neg v6\_struct\_0 \\ & X3) \wedge ((v13\_algstr\_0\ X3) \wedge ((v33\_algstr\_0\ X3) \wedge ((v3\_group\_1\ X3) \wedge \\ & ((v5\_group\_1\ X3) \wedge ((v2\_rlvect\_1\ X3) \wedge ((v3\_rlvect\_1\ X3) \wedge ((v4\_rlvect\_1 \\ & X3) \wedge ((v4\_vectsp\_1\ X3) \wedge ((v5\_vectsp\_1\ X3) \wedge (l6\_algstr\_0\ X3)))))))))) \Rightarrow \\ & (\forall X4.(m1\_matrix\_1\ X4\ (u1\_struct\_0\ X3)\ X0\ X1) \Rightarrow (k1\_matrix12 \\ & X0\ X1\ X3\ X4\ X2\ X2 = X4)))) \end{aligned}$$